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| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | MAKI, STEVEN D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1733 | |

DATE MAILED: 06/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/092,755

Applicant(s)

SHIMADA, GO

Examiner

Steven D. Maki

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 10-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 080702.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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1) The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "91, 92" and "a1, a2" have both been used to designate arrows indicating flow of A. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

In figure 5, it is suggested to change "91" and "92" to --a1-- and --a2-- respectively.

2) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3) Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the description of both a second passage (apparatus limitation) and a making step (process limitation) in the claimed apparatus is unclear. Which apparatus means is for the making step? In claim 1, it is suggested to (1) on line 21 change "making" to --through which-- and (2) on lines 21-22 change "to pass therethrough" to --passes--.

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4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Tolonen et al

6) Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Tolonen et al (US 4683095).

Tolonen et al discloses an apparatus for extruding different elastomer compositions comprising: extruders (first and second main extruder bodies) 20, 28, flow chambers (first and second passages) 48, 47, and a final die (die plate having an opening) 50. See figure 11. The "extruder rubber member" includes one material forming the cap portion of a tread and a second material forming the wings and base of the tread wherein (1) the cap material "intrudes" into the material of the wings and base and (2) the material of the wings and base are on both sides of the cap material. See figure 21.

In claim 1, the claimed apparatus is anticipated by Tolonen et al's apparatus. The claimed "flow dividing mechanism" reads on the "protrusion" separating flow chambers 47 and 48. This "protrusion" is part of first section 62 and can best be seen

in figure 16. The V-shaped end portions of the "protrusion" allows the cap elastomer to intrude into the remaining elastomer. The passage forming die reads on at least the remaining portion of the first section 62 (figure 11). The extrusion head reads on at least head frame 36 (figure 11).

In claim 2, the claimed weir reads on one the V-shaped end portions of the protrusion. As can best be seen from figure 15, the v-shaped end portions are placed in the flow chamber 47.

Wenz

7) Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Wenz (US 4731004).

Wenz discloses an apparatus for coextruding two or more materials (e.g. thermoplastic material and material B) comprising an extruder for material A, an extruder for material B, and a die 20 having a barrier (24, 24' or 45) for dividing the flow of material B such that materials A and B overlap in the extruded member. With respect to this overlap in the extruded member, material A intrudes into material B and material B is on both sides of material A. See figure 2.

In claim 1, the claimed apparatus is anticipated by Wenz's apparatus for extruding. The claimed flow dividing mechanism reads on barrier 24, 24' or 45. The description relating to the materials being unvulcanized rubber relates to the product worked upon by the apparatus and fails to require apparatus means not disclosed by Wenz. The claimed die plate and extrusion head are inherent in Wenz's apparatus for coextruding. See col. 5 lines 16-20.

As to claims 2 and 3, see figure 6. Claims 2 and 3 fail to require a larger area side face (in contrast to a smaller area end face as in figure 6) to be perpendicular to the flow direction.

Alternatively as to claims 2 and 6, the claimed first weir and second weir read on the U-shaped barrier 24' shown in figure 4.

8) Claims 1-3, 6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wenz in view of Corbett (US 3398431).

Wenz is considered to anticipate claims 1-3 and 6. In any event: As to claims 1-3 and 6, it would have been obvious to provide the Wenz's apparatus for coextruding with an "extrusion head" and a "die plate" in addition to the passage forming die and extruders since (1) Wenz explicitly discloses using a die of conventional design such as a die as disclosed in US 3398431 and (2) Corbett (US 3398431) discloses an apparatus for extruding different materials comprising extruders, extrusion head, passage forming die and die plate (see figures). Furthermore, it would have been obvious to one of ordinary skill in the art to configure and arrange the barrier such that Wenz's apparatus includes a flow dividing mechanism as claimed since Wenz teaches configuring and arranging a barrier (e.g. 24, 24' or 45) such that the extruded member formed by the apparatus comprises materials A and B overlapping such that material A intrudes into material B and material B is on both sides of material A as illustrated in figure 2 and as described at col. 6 lines 40-42. The description relating to the materials being unvulcanized rubber relates to the product worked upon by the apparatus and fails to require apparatus means not disclosed by Wenz. In any event: It would have been

obvious to provide Wenz's extruders such that they are capable of extruding unvulcanized rubber since (1) Wenz explicitly teaches that the techniques of the present invention for coextrusion of materials can be employed with any flowable material and optionally (2) extruders for an apparatus for (co)extruding unvulcanized rubber(s) (flowable material) is taken as well known / conventional per se. As to claims 8 and 9, it would have been obvious to add a third extruder and third passage as claimed in view of Wenz's teaching to configure the die to extrude "two or more materials (A, B, etc.)" (abstract).

Japan '081

9) Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (JP 11-240081 or US 6294119) in view of Japan '426 (JP 11-20426).

JP 11-240081 and US 6294119, which are equivalents, are available as prior art under 102(b) and 102(a, e) respectively.

Nakamura discloses an apparatus for extruding different unvulcanized rubbers comprising extruders, an extrusion head, a passage forming die, first and second passages and a die plate. The apparatus further comprises a "flow dividing mechanism" for dividing a nonconductive rubber and guiding it so as to be on both sides of another conductive rubber. See for example figure 9. Nakamura shows the sides of the conductive insert as being flat. Nakamura does not recite configuring the "flow dividing mechanism" such that a portion of the conductive rubber intrudes to the nonconductive rubber and a portion of the nonconductive rubber is on both sides the intruded conductive rubber.

As to the claim 1, it would have been obvious to one of ordinary skill in the art to configure the "flow dividing mechanism" such that a portion of the conductive rubber intrudes to the nonconductive rubber and a portion of the nonconductive rubber is "allowed" to be on both sides the intruded conductive rubber since (1) Nakamura teaches using the "flow dividing mechanism" to form the rectangular conductive insert of the tread and (2) Japan '426 suggests intermittently forming broad anchors on a conductive rubber insert in a tread to block shrinkage in the thickness direction / secure antistatic toward the last stage of wear. Shaping the flow dividing mechanism of Nakamura's figure 9 embodiment so as to form a conductive insert having the shape illustrated in the table at col. 9 of Japan '426 "allows" the nonconductive rubber A to be on both sides of the intruding middle broad anchor.

As to the dependent claims: As to claim 2, the first weir reads on the top of the "flow dividing mechanism". As to claim 3, the top of the "flow dividing mechanism" is parallel to the die plate and the side has a trapezoidal shape. As to claim 4, Nakamura discloses a "partition wall" between passages 4a and 4c. See for example figure 4. As to claim 5, the top of the "flow dividing mechanism", which is parallel to the die plate, extends to an intermediate position as claimed. As to claims 6 and 7, note the sides of the "flow dividing mechanism" which are perpendicular to the die plate. As to claims 8 and 9, the limitation of the third extruder and third passage would have been obvious in view of Nakamura's teaching that the apparatus may additionally include a third extruder and passage for material C so that the wings may be of a third composition.

Allowable Subject Matter

10) Claim 5 would be allowable if (1) rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims and (2) amended to include the subject matter shown in figure 5 - this subject matter including the arrangement and structure of the first weir and the partition wall so as to enable the flows indicated by arrows a1, a2, b1 and b2.

Remarks

11) Applicant's election with traverse of Group I apparatus in the reply filed on 4-13-04 is acknowledged. The traversal is on the ground(s) that the search for Group I and the search for Group II is the same. This is not found persuasive because the search for Group I but not Group II requires a search for first extruder main body, second extruder main body, extrusion head, passage-forming die, first passage, second passage and flow dividing mechanism. Furthermore, the search for Group I but not Group II requires a search for apparatus for extruding materials other than unvulcanized rubber.

The requirement is still deemed proper and is therefore made FINAL.

Japan '145 (JP 2000-351145, cited by applicant) fails to disclose the claimed flow dividing mechanism. The protrusion "e" in figure 11 is a distortion caused by a ratio of H1/H2 exceeding 3.25 instead of a flow dividing mechanism as claimed.

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Japan '813 (JP 2000-117813, cited by applicant) and Sievers et al (US 4556376, cited by applicant) are of general interest for disclosing apparatus for extruding different rubbers.

Japan '443 (JP 4-208443, cited by applicant) is of interest for figure 4, which shows one rubber intruding into another rubber.

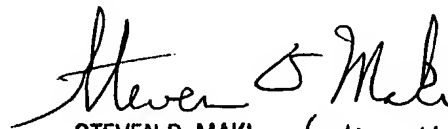
The remaining references are of interest.

12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Steven D. Maki
June 10, 2004


STEVEN D. MAKI 6-10-04
PRIMARY EXAMINER
~~GROUP 1300~~
AU 1733